MANUAL CHAPTER 2630

GASEOUS DIFFUSION PLANT OPERATIONAL SAFETY AND SAFEGUARDS INSPECTION PROGRAM

2630-01 PURPOSE

This chapter establishes the routine safety and safeguards inspection programs for the gaseous diffusion plants (GDPs).

2630-02 OBJECTIVES

02.01 To define the organizational responsibilities and authorities, and establish the general policy for the GDP inspection program.

02.02 To set inspection priorities based on the dominent risks for the enrichment process and establish specific requirements for inspection procedure (IP) intervals at the GDPs.

02.03 To ensure that the safety and safeguards requirements and commitments contained in the Certificate, Technical Safety Requirements (TSRs), Safety Analysis Report (SAR), Compliance Plan (CP) and docketed responses to Nuclear Regulatory Commission (NRC) review questions, are met.

02.04 To track and verify completion of the approved CP commitments according to the specified schedule.

02.05 To gather information to support the annual report to Congress.

2630-03 RESPONSIBILITIES AND AUTHORITIES

03.01 Director, Office of Nuclear Material Safety & Safeguards (NMSS). Provides overall program direction for the GDP certification and inspection program.

03.02 Director, Division of Fuel Cycle Safety and Safeguards (FCSS). Develops, implements, and evaluates overall Agency safety and safeguards policy for fuel cycle facilities; directs NRC's principal licensing, certification, inspection, environmental reviews, and regulatory activities to ensure adequate safety and safeguards.

03.03 Regional Administrator, Region III. Provides program direction for management and implementation of the inspection program elements performed by the regional office.

The safety and safeguards inspection program for the GDPs consists of Core, Discretionary, and Reactive Inspections. Core inspections are conducted by the resident inspectors, region-based inspectors, and headquarters-based inspectors in their assigned areas. The IPs prescribe minimum and normal inspection intervals. The estimated performance times (described in Appendix A) are to assist in planning resource allocations. They are not goals or standards. It is expected that the actual hours required to complete an IP at a particular plant may vary from the estimate. The normal inspection intervals are to be used until the first licensee performance review (LPR) is completed under Manual Chapter (MC) 2604, at which time management will approve any changes to the minimum levels specified. Other adjustments may be necessary to respond to significant safety and safeguards issues and could require the temporary borrowing of resources from other regions or Headquarters. Such adjustments shall be coordinated between FCSS and Region III.

Inspection Requirements

Although several IPs were developed specifically for use at the GDPs, other previously established IPs are designated as part of the core program. It is this program's intent that the inspector use the IPs as guidance during the inspection. The inspector must review the specific TSR and SAR requirements and applicable GDP plans submitted as part of the SAR to establish the specific requirements. The scope of an inspection in a particular functional area is not limited by the IP line items, but should include all pertinent commitments and safety requirements contained in the associated safety bases documentation. It is recognized that a typical inspection can cover only a sample of the requirements and activities being conducted at a GDP. Therefore, the inspector is expected to exercise professional judgement, to concentrate on those activities with the highest safety and safeguards risk.

Independent Inspection Effort

Each inspector should spend up to 20 percent of his/her onsite inspection time performing independent inspection effort. The amount of time spent should be commensurate with the level of risk, the complexity of the operation or program being inspected, and the degree to which inspection resources have already been committed to significant safety and safeguards issues previously identified in the facility. This effort may include more in-depth inspection in selected technical areas than that normally called for by the formal IPs. The major objective of this effort should be to gain increased understanding of the potential safety hazards of particular equipment or operations of interest, such as those that may have been involved in a series of recent off-normal events.

04.01 Core Inspections. The dominant risks at the GDPs involve: (1) nuclear criticality from uranium hexafloride (UF_6) enriched in Uranium-235; (2) chemical toxicity of uranium,

hydrofloric acid (HF); and other chemicals associated with UF_6 processing, (3) fire, and (4) loss of control and accounting for special nuclear material (SNM). The core inspection focuses on the programs that have been established to control those risks and provide the required level of inspection effort for each functional area for the resident inspectors, region-based inspectors and Headquarters-based inspectors.

The purpose of the core inspections is to confirm the safety and safeguards performance of the GDPs by determining that the features relied on for safety and safeguards are:

(1) Adequate to perform the safety/safeguards function.

(2) In place and operable.

(3) Available if called on to perform their safety/safeguard function.

(4) Reliable to perform their safety/safeguards functions for as long as necessary.

Inspection findings should be compared with the safety bases of the facilities as contained in the Certificate of Compliance and any applicable conditions, TSRs, SAR, and responses to staff questions, and the CP and associated Justification for Continued Operation (JCO). When a potential safety and safeguards problem is identified, the inspections should focus on identification of the root cause(s) and the failures in the management control systems (including quality programs) that allowed the problem to occur.

Resident and Specialist Activities

It is the intent of the program that in-depth examinations of specialty areas, such as radiological controls, emergency preparedness, and physical security, will be performed by Headquarters or region-based specialists. The resident inspectors are generalists and should concentrate on the TSRs and implementation of the various management controls, such as the conduct of operations, the problem identification and corrective action, and configuration management systems. The resident inspectors are also expected to keep abreast of site performance trends, potentially significant events, and other significant activities. Most inspections should emphasize the observation and evaluation of ongoing facility operations and supporting activities affecting the safety and safeguards function of facility structures, systems, and components. The core inspections should also focus on the effectiveness of program implementation and minimize detailed reviews of program descriptions and related procedures.

04.02 Discretionary Inspections. The discretionary inspection program resources are applied to those GDPs and/or functional areas that, based on plant performance, require inspection effort beyond the core inspection effort. Either the Regional Administrator or the Director, FCSS, can identify the need to perform regional or Headquarters initiatives based on factors such as the results of

other inspections, performance, or the results of interactions with the GDPs. Such inspection activity should only be undertaken after consultation between the region and Headquarters. The additional inspection effort may use selected IPs not included in the core inspection program element, with the approval of FCSS.

04.03 Reactive Inspections. Reactive inspections are generally unplanned inspections that are conducted as determined by the Regional Administrator or Director of FCSS in response to events or issues. This part of the program includes review of allegations and activities performed under Augmented Inspection Team procedures. Reactive inspections may also be conducted to follow up on findings from other inspections that require immediate attention.

04.04 Team Inspections. Team inspections are those that are multi-disciplined in both scope of the inspection and composition of the team. They require a team leader to manage the inspection, coordinate inspection results daily during the inspection, and prepare the inspection report based on input from team members. FCSS is responsible for the development of team IPs and for providing technical support.

Team inspections provide an independent, in-depth, and balanced assessment of one or more aspects of certificant performance. These inspections are conducted by Headquarters teams and by regional office teams. For a uniquely designed team inspection, time should be charged to the procedure(s) most representative of the inspection performed.

The teams under the team inspection element may be composed of NMSS personnel, resident and region-based inspectors, contractors, and participants from other government agencies. Team inspections that are sponsored and performed by regional offices will be supported by FCSS as resource allocations allow.

Note that team inspections do not include those inspections in which a group of inspectors is assembled to complete a number of inspection procedures or to perform a broad or in-depth examination of a particular functional area (e.g., a health physics inspection). These inspections are normally conducted to complete a scheduled regional initiative inspection or, in some cases, a mixture of regional initiative and core inspection elements.

04.05 Master Inspection Schedule. A Master Inspection Schedule shall be maintained by FCSS, including all inspections planned by the regional and Headquarters inspection staffs. These inspections will be coordinated to ensure that: (1) inspections are performed with the required intervals (as prescribed in Table 1, or modified in writing in accordance with this chapter); (2) inspections do not overlap and cause undue adverse impacts on normal operations at the facility; and (3) major GDP inspection program activities, such as LPRs, can be scheduled with minimum interruption of scheduled inspections.

Most inspections on the Master Inspection Schedule will be considered announced inspections, with adequate advance notice given to the GDPs to ensure that the appropriate facility personnel

can be made available and arrangements can be made for the inspectors to observe certain activities not conducted on a routine or regularly scheduled basis.

04.06 Coordination with Other Agencies. Hazards outside the scope of NRC IPs or NRC regulatory authority should be: promptly conveyed to GDP, regional and Headquarters management; highlighted at the exit interview; and included in the formal inspection report. In cases where regulatory jurisdiction for the observed potential hazard is clear, the finding shall be reported to the responsible agency, for action (i.e., State, Occupational Safety and Health Administration (OSHA), Environmental Protection Agency, etc.). In all cases where the finding involves a potential effect on the safety and safeguards of radioactive material, the finding shall be followed during subsequent inspections until the concern has been addressed. However, special follow-up inspections solely on the basis of an OSHA issue are not required unless the potential hazard also directly involves radiological health or safety. (See the NRC-OSHA Memorandum of Understanding for the GDPs.)

2630-05 RESIDENT INSPECTOR POLICY

The resident inspectors provide the major onsite NRC presence for direct observation and verification of certificant ongoing activities. The resident inspectors also are primary NRC onsite evaluators for site events or incidents. It is expected that the greater part of initial event-related inspection effort will be performed by the resident inspectors, who may be supplemented by other inspectors, depending on the type of event. Regional managers will decide when normal inspection activities will be resumed by those involved with inspecting events.

The following is the general policy on the extent to which resident inspectors are to provide coverage during late evening and early morning hours and weekends.

- For sites staffed with at least two qualified resident inspectors, at least one qualified resident inspector or qualified region-based alternate should provide coverage during normal site working hours (Monday through Friday) such that there are no more than two consecutive normal work days in which there is no coverage equivalent to normal resident inspector coverage. Consequently, for extended absences of the resident inspectors, arrangements will need to be made for appropriate region-based staff coverage. When region-based inspectors provide such coverage, they should be qualified to perform inspections but they need not be qualified resident inspectors. It is expected that gaps in excess of 2 days with no coverage should not occur more frequently than a few times per year. For sites with only a single qualified resident (e.g., because of a vacancy), the guidance described above should be followed to the maximum extent possible.

- To broaden inspectors' perspectives and to provide training, it is important to have resident inspectors participate in

selected inspections at other sites and in short-term assignments. These could include team inspections at other sites, and assignments in the regional office and in NMSS. Considering these goals and the normal time away from the site for training and leave, it becomes obvious that this represents a time conflict with the guidance for onsite resident coverage. Thus, the region must closely monitor the time that the resident spends away from his/her assigned site. In addition, the region should designate backup resident inspectors for each site, and require that they spend sufficient time at their backup site to become familiar with it.

- In general, the resident inspectors are expected to devote about 10 percent of the normally scheduled onsite time to inspection of certificant backshift activities. In this context, backshift is defined to mean all times other than the normal certificant business hours (day shift) on non-holiday Mondays through Fridays. Backshift coverage should be primarily focused on direct observation of in-plant or control room activities. Backshift coverage should include steady state conditions as well as periods of considerable activity. During periods of high backshift activity, consideration should be given to having the resident inspectors or region-based inspectors spend a larger fraction of their work week on the backshift.

- As a subset of backshift time, resident inspectors should devote about 5 percent of normally scheduled onsite time to weekends, holidays, and the week night hours between about 10:00 p.m. and 5:00 a.m. This is referred to as "deep" backshift coverage. These inspections should last at least a few hours. Inspections on Saturday or Sunday should be performed at least once a month. If deemed appropriate by regional management, this coverage may be provided by regional inspectors in lieu of or in addition to resident inspectors. (Credit may be taken for regional and Headquarters inspection coverage in achieving deep backshift coverage goals.)

- Inspectors should be sensitive to the element of nonpredictability in scheduling their backshift coverage. To maximize the benefit of deep backshift coverage, inspectors should try to prevent the development of a pattern. Further, effort should be made to spread the deep backshift coverage over as many days as practicable.

2630-06 REGIONAL AND HEADQUARTERS INSPECTOR POLICY

Regional inspectors conduct inspections as directed by their supervisors. In addition to core inspection program procedures, regional inspectors often will conduct inspections under the discretionary program element described in this chapter. Certain aspects of their inspection activity may be conducted in the regional office (i.e., portions of procedure review and administrative program inspection).

There is not a specific goal for performance of backshift inspections by regional and Headquarters inspectors, but such efforts should be performed whenever required to complete the intended scope of the inspection.

The senior resident inspector and the Regional Office Fuel Cycle & Decommissioning Branch must be kept apprised of regional and Headquarters inspector activities at the facility. Regional and Headquarters based inspectors should contact the senior resident inspector before the inspection to obtain information concerning the availability of specific certificant personnel and the status of plant conditions that may affect the planned inspection. In addition, they should contact the senior resident inspector as soon as is convenient after their arrival at the site to ensure a coordinated NRC presence at the facility. They should advise the senior resident inspector of changes to their planned inspection effort and schedule for the certificant exit interview. The senior resident inspector should inform the regional and Headquarters inspectors of any unique activities in progress and offer specific inspection suggestions. The regional and Headquarters inspectors should brief the senior resident inspector about the results of their inspection before the exit interview with certificant management. The senior resident inspector should attend all exit meetings where significant issues are expected to be discussed.

2630-07 COMPLIANCE WITH THE APPROVED SAFETY BASES

The safety bases are that body of documentation which includes: (1) the Certificate of Compliance and any associated conditions; (2) the TSRs; (3) the SAR and responses to NRC questions; (4) the CP and JCO for each action item, and (5) the updated SAR when it becomes available. Appendix B cross-references the TSRs, SAR sections and IPs for each functional area, for use by the inspectors during inspection preparation. The inspectors are expected to become familiar with the specific requirements within their area and to use the IPs as guidance in verifying the adequacy of the site's implementation of those requirements. It is noted that the inspection procedures may not cover all aspects of the approved safety bases in a particular area. However, the inspectors are expected to use their professional judgement and ensure that an adequate review is performed whether or not there is an inspection line item.

2630-08 COMPLIANCE PLAN ACTION ITEMS

The Application specifies how the GDPs will comply with 10 CFR Part 76. However, at the time of certification, additional work will still be necessary to bring the GDPs into full compliance. The CP identifies those areas not in full compliance and provides a JCO during the interim time. Until the facility management informs the NRC that an action item has been completed, the site's actions verified by an inspection and the action item is formally acknowledged as closed by FCSS, the CP and associated JCOs are the controlling requirement.

Temporary Instruction (TI) 2630-001, "Tracking and Closeout of Compliance Plan Action Items", provides the mechanism by which the NRC will track and formally close each action item. Only FCSS has the authority to close an item based on the facility's written submittal and NRC inspection assessment and verification.

2630-09 PERFORMANCE REVIEWS

MC 2604 describes the program for conducting and documenting evaluations of fuel cycle facility licensee performance. This performance review will be conducted annually for the GDPs, to serve as the basis for evaluating the GDP's performance, to adjust inspection intervals and areas of concentration, and to provide information for management to use in the annual "Report to Congress".

END

Attachments:
Appendix A, "Fuel Cycle Inspection Procedures and Intervals"
Appendix B, "TSR/SAR Programs and Admin Controls vs. Inspection Procedures"

APPENDIX A

Fuel Cycle Inspection Procedures and Intervals

Procedure Number	Title	Interval[1] Minimum	Normal
88100	Plant Operations	M	M
88105	Management Organization & Controls		A
	S		
88115	Configuration Control	A	S
88125	Surveillance Observations	A	S
88130	Maintenance Observations	A	S
88010	Operator Training/Retraining	A	S
88015	Criticality Safety (Headquarters)		S
	3/year		
88020	Criticality Safety (Regions)	S	3/year
88035	Radioactive Waste Management	A	S
88045	Environmental Protection	A	S
88050	Emergency Preparedness	A	S
88055	Fire Protection	A	A
83822	Radiation Protection	A	S
84850	Insp. of Waste Generator Requirements		A
	A		
86740	Transportation of Rad. Materials		A
	S		

[1]M - Monthly, A - Annually, S - Semi-Annually, B - Biennial, Q - Quarterly

Procedure Number	Title	Interval[2] Minimum	Normal
	Chemical Safety		
88056	Process Safety Information	B	A
88057	Hazard Identification and Assessment	B	A
88058	Standard Operating Procedures	A	B
88059	Site-Wide Safety Practices	B	A
88060	Detection and Monitoring	B	A
88061	Training	B	A
88062	Maintenance and Inspection	B	A
88063	Management of Change	B	A
88064	Emergency Procedures	B	A
88065	Incident Investigation	B	A
88066	Audit and Inspection	B	A

[2]M - Monthly, A - Annually, S - Semi-Annually, B - Biennial, Q - Quarterly

Procedure Number	Title	Interval[3] Minimum	Normal
	Material Control and Accounting		
85501	MC&A Management Structure	A	S
85502	Measurement Program	S	Q
85503	Measurement Control Program	S	Q
85504	Inventory Program	S	Q
85505	Detection Program	S	Q
85506	Item Control Program	S	Q
85507	Resolution Program	S	Q
85508	Assessment Program	S	Q
85509	Recordkeeping	S	Q

[3]M - Monthly, A - Annually, S - Semi-Annually, B - Biennial, Q - Quarterly

Procedure Number	Title	Interval[4] Minimum	Normal
90712	Inoffice Review of Events	As Needed	As Needed
92701	Follow-up on Inspector Problems	As Needed	As Needed
92702	Follow-up on Violations/Deviations	As Needed	As Needed
92703	Confirmatory Action Letters	As Needed	As Needed
92709	Licensee Plans for Coping with Strikes	As Needed	As Needed
92710	Licensee's Initial Implementation of Strikes Plans	As Needed	As Needed
92711	Continued Implementation of Strike Plans During an Extended Strike	As Needed	As Needed
92712	Resumption of Normal Operations After a Strike	As Needed	As Needed
93001	OSHA Interface Activities	As Needed	As Needed
94702	Participation in Licensee Meetings	As Needed	As Needed

[4]M - Monthly, A - Annually, S - Semi-Annually, B - Biennial, Q - Quarterly

APPENDIX B

TSR/SAR PROGRAMS & ADMIN CONTROLS VS. INSPECTION PROCEDURES

TSR Requirement		SAR Section	Inspection Procedure
2.X	Facility Specific TSRs LCS LCO Surveillance Requirement Frequency Surveillance Basis	n/a	88100
SAR References			
3.X	Administrative Controls		
3.1	Responsibilities		88105
3.2	Onsite and Offsite Organization	SAR 6.1	88105
3.3	Staff Qualifications		88105
3.4	Training	SAR 6.6	88010/88061
3.5	Reviews, Assessments, and Audits	QAP and SAR 6.2 & 6.8	88105/88066
3.6	TSR Bases Control	SAR 6.3	88115/88063
3.7	Effects of Natural Phenomena (Emergency Response Procedures)		88050/88064
3.8	Process Ventilation and Off-gas	SAR 5.1 (3.7.5 & 3.7.8)	83822
3.9	Procedures		88105/88058
3.10	Plant Operations Review Committee		88105

TSR Requirement		SAR Section	Inspection Procedure
3.11	NCS Program	SAR 5.2	88015/88020
3.12	Fire Protection Program	SAR 5.4	88050
3.13	Radiation Protection	SAR 5.3	83822
3.14	Radioactive Waste Management		88035/88103
3.15	Maintenance	SAR 6.4	88025/88062
3.16	Environmental Protection Program	SAR 5.1	88045
3.17	Packaging and Transportation (UEO-1041)		86740
3.18	Chemical Safety Program	SAR 5.6	88056-88066
3.19	Operations	SAR 6.5	88100
3.20	Accident Analysis Design	SAR 6.3	
	88112/88063 Change Control Process		
3.21	Shared Facilities (TSR Section 2)		88100
3.22	Utilities Essential to Rad Safety - System Boundaries		88100
3.23	Worker Protection from		
	88100 UF_6 Process Hazards		
3.24	Records Retention		
	TBD		
3.25	Special Reporting Requirements		90712/88194